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Art Societies and City Parks.

SOME years ago, after it had been proposed to seize a portion of Central Park as a site for the exhibition buildings of a World's Fair, it was suggested that some organized protection for parks be made in the various cities of the country. The pressure of growing cities is constantly felt upon every open space within their limits, attacks upon their integrity will be repeated year after year, and, unless resistance is constant and determined, many of the parks will share the fate which seems to threaten our City Hall Park, and will gradually disappear, or will be perverted to purposes foreign to the plans of their originators and destructive of their highest usefulness. Something like an impromptu organization of the character suggested was made when Central Park was threatened by the Speedway, and since that time the same organization made itself useful when the Seventh Regiment was invited to parade on the green before the Infanta of Spain. We still hope to see such an association with a permanent secretary and a staff prepared to keep strict watch upon our Park Boards, to give timely warning of coming danger and to give an opportunity for public opinion to find effective expression.

But besides this danger of confiscation, our parks fail of their highest usefulness by crude designs, bad planting and inartistic decoration. When public grounds are disfigured by garish flower-beds any criticism of the planting is answered by the rejoinder that this is what the people like. The fact is that people enjoy everything green and fresh, flowery and bright. What they do not know is that there are other things more enjoyable than those set before them. Just here is the point upon which it is the duty of some one to instruct them, and the only effective way to teach this lesson is to furnish the public with examples of what is best for their study and enjoyment. Of course, the aspect which our parks wear will depend directly on the good sense and good taste of the Park Commissioners and the executives whom they appoint. If these are trained as they should be they would not content themselves with gratifying the taste of the public of to-day, but they would feel it their duty to create a more intelligent public to-morrow, a public with more keen and critical taste, and therefore more fertile powers of enjoyment. If parks were made thoroughly artistic in every detail the people would quickly learn to appreciate them and to look back with surprise upon the time when they enjoyed a barbarous profusion of ugly forms and heterogeneous colors. Unfortunately, neither park commissioners nor superintendents can always be trusted to work upon so high a plane, and here is the point where much might be done by some body of citizens versed in artistic matters who could stand between these officials and the general public to help them when they are in the right, and to check them when they are in error.

All persons who take an intelligent interest in public parks will, therefore, find something of promise in the recent establishment in this city of two artistic societies, the Municipal Art Association and the Sculpture Society. Each of them consists of artists and of laymen interested in art; each is officered chiefly by artists of established repute, and each has been founded with the avowed purpose of serving the community and not any special class. The desire to advance the arts for their own sake was, of course, prominent in the minds of the organizers of these societies, but they recognize the truth that this can only be accomplished by an advance in the critical and appreciative powers of the people. They know, too, that progress in art and in the capacity to enjoy it will both depend largely upon the successful result of efforts to enhance the beauty of our public possessions. It is the practical recognition of these fundamental truths which makes the establishment of these societies a sign of hope. There certainly is encouragement in the fact that the founders of these societies declare, not in words only, but by their very act of organizing, that art is not for the isolated amateur, but for the whole people; that the people must understand and cherish it if it is to prosper; that it is a thing of municipal value, of national significance, of general and all-embracing interest.

The programme of the Municipal Art Association mentions public parks among the things which it will strive to benefit, and certainly these pleasure-grounds deserve such service, because they are of more interest and importance to the great bulk of the people in a city like ours than even the museums or municipal buildings. For one person who sees the inside of the Metropolitan Museum of Art or the pictures and statues which may be placed in our new City Hall, for one even who will definitely notice the outward aspect of this or any other good building, there are hundreds who will look with delight upon the beauties of Central Park. Moreover, people, when in a park, especially if they are laboring people, are in just the mood to receive refreshing and inspiring ideas and to develop their love of beauty. In the streets and in the public buildings their minds are filled with business. They may frequent museums and galleries out of mere curiosity. In a park they are neither busy nor curious, but in a receptive mood and eager in their enjoyment to drink in the quiet beauty of the scene before them.

If, therefore, the Municipal Art Association will conscientiously study the words and deeds of the Park Commissioners and officers, taking note of mistakes when made and explaining them, encouraging every good intention, supporting them against unintelligent criticism and mistaken public demands, and joining heartily with the people whenever their demands seem warranted by good sense and artistic fitness, its work is sure to be effective. Unfortunately, what artistic fitness means is as yet less generally understood with regard to landscape-art than any other branch of art. This fact not only renders the services of the new association needful, but it implies that the members should first of all make sure that they understand it themselves. We have known painters, sculptors and architects, professional art critics and passionate lovers of nature to be as ignorant with regard to the aims and pro-

cesses of landscape-gardening as the veriest Philistine, and quite as blind to the good and bad work in this field. The united judgment of a body like this, however, must certainly be in the right direction, for whatever may be the specialty of each member, he can be addressed on the broad principles which govern all the arts.

The field of the Sculpture Society with respect to outdoor art is narrower, but it is still wide and important. It will justify its formation if it does no more than direct attention to our cemeteries until all the people learn that a monument to the dead, whether costly or cheap, always may be and should be made a true work of art. It ought to do a good work in checking the tendency to clutter up the parks with bad or inappropriate statues and monuments. It should keep insisting that high merit in a statue does not always justify its admission to a park; that such a work ought not only to be worthy in itself, but worthy as an ornament to the park and appropriate for the special site selected; and that the proper placing of a statue in a park is quite as important as the intrinsic merit of the work. All this, in a broad view of the case, means popular education, and popular education is slow work. It is not wise, therefore, to look forward to any sudden ushering in of the millennium of art. Nevertheless, when we consider that the members of these associations are, as a rule, men of recognized taste and training, as well as men of influence, and that they are organized for actual work, we have a right to expect that the public parks of this city, as well as its public buildings and other outdoor features, will be more beautiful and more useful for the existence of the Municipal Art Association and the Sculpture Society in this city.

Many complaints have been made against the concession system at the Columbian Exposition. Some of the concessions which seriously interfere with the comfort of visitors have been modified, but the photograph monopoly is unbroken and is likely to remain so, and the grievance is not alleviated by the fact that the special privilege is held by the son of one of the high officials in the administration of the Fair. Every visitor who brings a camera to the grounds is taxed $2.00 a day, and even then only hand cameras of sizes not larger than four or five inches are allowed. It is true that the beneficiaries of this monopoly have paid for it and have, therefore, given financial aid to the Exposition; but a small license fee charged at the gates and paid directly to the Exposition would undoubtedly have yielded more money and have allowed the visitor to obtain much advantage from the Fair which he now loses. The deplorable side of this question is that perishable exhibits are passing away every day and no record is made of them for future reference. In the Horticultural Department there are new and curious fruits and flowers, exhibits showing the influence of climate and cultivation, examples of the landscape-gardener's skill, all of which are ephemeral, and they can teach no permanent lesson and become no part of the general stock of human knowledge without pictorial illustration. It has been the boast of the Exposition that it is to be an educational power, and yet the only means which can rescue much of it from loss is sacrificed in the interest of monopoly. One can hire the official photographer to take pictures for him, but he pays an exorbitant price, and is then not entitled to the negative. If the authorities had desired to obliterate many of the best lessons of the Fair they could have hardly selected a better method of doing this than by establishing this photograph embargo.

Notes on the Forest Flora of Japan.—XVII.

The traveler landing for the first time at Yokohama is surprised at the abundance of arborescent Lauraceæ, which here, with evergreen Oaks and Celtis australis, make the principal features of the woods which cover the coast-bluffs and surround the temples. The most abundant of the Lauraceæ in this part of Japan appears to be the Camphor-tree, Cinnamomum Camphora, one of the most beautiful of all evergreens, and probably indigenous in southern Japan. In that part of the country which we visited, however, it had every appearance of having been planted. Even at Atami, on the coast some distance below Yokohama, a popular winter resort famed for the mildness of the climate and for the geyser, which attract many visitors, the Camphor-tree is probably not indigenous. Near the town is the grove of Kinomiya, where may be seen what is popularly supposed to be the largest Camphor-tree in Japan. It is really a double tree, as the original stem has split open, leaving irregular faces, which have become covered with bark. Between the two parts there is sufficient space for a small temple. The larger of the two divisions at five feet from the surface of the ground, and well above the greatly swollen base, girths thirty-three feet eight inches, and the smaller twenty-seven feet six and a half inches. This remarkable tree, which has every appearance of great age, is still vigorous and in good health. Atami is celebrated for the skill of its workers in wood and for the production of many small articles made from the Camphor-tree. The hills along the coast are covered with groves of Orange-trees, and in the temple-gardens were many southern trees which we did not see in perfection in other parts of the empire.

On the coast of this part of Japan, Cinnamomum pedunculatum becomes a tree thirty or forty feet in height, and on the neighboring Hakone Mountains ascends to elevations of a couple of thousand feet. It is a handsome tree, with ample, ovate, acute, lustrous leaves, pale or nearly white on the lower surface, and long-stalked flowers and fruit. In the same region two other arborescent Lauraceæ grow naturally—Litsea glauca and Machilus Thunbergii. They are both evergreens and are handsome trees, especially the Litsea, which bears oval leaves sharply pointed at both ends, silvery white on the lower surface, and often six inches long, and near the ends of the branches abundant clusters of black fruit. These two trees are the most northern in their range of the Lauraceæ of Japan with persistent foliage, and they may be expected to thrive in this country where the evergreen Magnolia and the Live Oak flourish.

The flora of eastern Asia is rich in Linderas, no less than twenty species having already been found in the Chinese empire and in Corea, while in North America there are only two—Lindera Benzoin, the common Spice-bush of northern swamps, and the southern Lindera melissæfolia. Japan possesses half a dozen indigenous Linderas, although none of them are endemic, and in the mountain-regions of Hondo several species are common, and make notable features in the shrubby growth which covers hill-sides and borders streams and lakes.

The most beautiful, perhaps, of the Japanese species is Lindera umbellata, a southern plant, found also in central China, which I only saw in the Botanic Garden at Tōkyō, where it forms a stout bush eight or ten feet high. The leaves, which appear in the spring with the flowers, are lanceolate-acute, very gradually narrowed at the base, rounded at the apex, entire and often six or eight inches in length; they are lustrous on the upper surface, pale and covered on the midribs and veins on the lower surface with rufous pubescence. The fruit, which is a quarter of an inch in diameter and brilliant scarlet, is produced in great quantities in dense axillary clusters on the branches of the previous year and ripens in August and September. As I remember it, this seems one of the most beautiful plants which I saw in Japan. It may be expected to thrive in the southern states and in southern Europe, but it will probably not be able to support the cold of the north.

As a garden-plant for this region, Lindera obtusiloba is, perhaps, the most promising; and we were fortunate in securing a sufficiently large quantity of seeds, gathered at high elevations in central Hondo, to give it a good trial. Lindera obtusiloba (see figure on page 295 of this issue, the first which has been published) often becomes a bushy

tree twenty to twenty-five feet in height, with a short stout trunk, terete brown branchlets and conspicuous winter-buds covered with imbricated chestnut-brown scales. The leaves appear with the flowers and are broadly ovate, palmately three-nerved, mostly three-lobed at the apex, three or four inches long and broad, thick and firm, lustrous above, pale and often puberulous on the veins below. In the autumn, before falling, they turn to a beautiful clear yellow color, and make a handsome contrast with the shining black fruit, which is borne on hairy stalks in few-fruited axillary clusters, produced on short spur-like lateral branchlets of the previous year. This handsome plant, although it grows to its largest size in central Hondo at four or five thousand feet above the sea, does not, so far as we have observed, range north of the Nikko Mountains, and, therefore, does not reach Yezo, where only Lindera sericea is found. This is a small slender shrubby species, with precocious flowers, oval, entire, pointed leaves, silky-canescent at first, and at maturity dark green on the upper and pale on the lower surface, and small black fruit.

The other species of Lindera, which may possibly prove hardy in our northern gardens, are Lindera triloba and Lindera præcox. The first is a common plant in Hondo, where it does not, however, ascend to the heights reached by Lindera obtusiloba, which is a more northern and a hardier plant. Lindera triloba often grows to the height of twenty feet and produces trunks six inches in diameter, from which spring numerous slender divergent branchlets well clothed with leaves. These appear with the flowers and are elliptical or oblong, wedge-shaped at the base and divided at the apex into three acute lobes, separated by deep broad sinuses rounded at the bottom; they are three-nerved, membranaceous, and light green above, pale and covered below on the ribs with rufous pubescence, three or four inches long, two or three inches broad, and are borne on slender petioles. The fruit is half an inch in diameter and is produced in few-fruited umbels on short stout club-shaped stalks.

Lindera præcox, like our American species, flowers before the leaves appear; it is a bushy tree fifteen to twenty feet in height, with stout divergent light brown branches, and is conspicuous in midsummer from the large size of the flower-buds, which are already fully grown, and which probably open during the winter or in earliest spring. The leaves are ovate, long-pointed, rather thin, dark green above, pale and often pubescent below, two or three inches long, with long slender stalks. The fruit, which is nearly an inch in diameter, is reddish brown and marked with many small white dots; the flesh is thin, papery and very brittle. Lindera præcox is common in the Hakone Mountains; we found it near Agamat-su, on the Nagasendo, and Mr. Veitch collected it on Mount Chokai-zan, on the north-west coast of Hondo. If it inhabits the Nikko Mountains we missed it there, and on Hakkoda, near Aomori, where Lindera sericea was the only species seen.

The other Japanese Lindera, L. glauca, is a southern black-fruited species with precocious flowers, with the habit and general appearance of Lindera sericea, from which it differs in its larger leaves and more rigid branches.

Of Elæagnus, the only representative of its family in Japan, we only saw growing naturally Elæagnus umbellata, a variable plant in the size and shape of its leaves and fruit, and one of the commonest shrubs in Japan from the level of the sea to elevations of 5,000 feet. In the mountainous regions and at the north it is often planted near houses for the sake of its small acid fruit; and in cultivation not infrequently rises to the size and dignity of a small tree. Elæagnus umbellata is now well established in our gardens, where it flowers and fruits as freely as it does in Japan.

The now well-known Elæagnus longipes was often seen in gardens, especially among the mountains and in Yezo, but we did not notice it growing wild. In old age it sometimes attains the height of twenty or twenty-five feet and forms a stout straight trunk a foot in diameter. Such a plant, evidently of great age, may be seen in the Botanic Garden at Tōkyō.

The beautiful Elæagnus pungens, with its long wand-like stems, now a familiar object in several varieties in the gardens of southern Europe, was seen in the temple-grounds at Nara and by the road-side near Kyōtō, where it appeared to be an escape from cultivation rather than an indigenous plant. Of the other reputed Japanese species we could hear nothing. *C. S. S.*

A Glorified Park.

JACKSON PARK will live in the memory of those who have had the good fortune to see the World's Fair, as a creation as enchanting as the vision in Coleridge's broken dream. That all this magical splendor should have been evolved from a swamp with sparsely wooded shores proves that America possesses at least one pre-eminent creative imagination, while the sorrowful knowledge that this realization of an artist's dream is not a permanent possession, but simply food for memory, adds intensity to the impression and stimulates the mind to grasp such general effects as will not fade from the recollection. It is a mistake, therefore, in a week's visit, which is all that is allowed to most of us, to attempt too much detail; for this is really to waste one's opportunity. The outdoor charm of moving life, of glittering water, of stately architecture, of pleasant gardens, is what one should seek to seize and hold as an enduring memory, and it is this which is to produce upon our people the most important effect. To the active and eager minds of the great west this revelation of beauty means a bound from the real to the ideal, and no one can estimate the results which may come to the country in its artistic development through the influence which such a scene must exercise upon young and impressible natures, with the limitless resources of America behind them. The tremendous effect of the Columbian Exposition is produced, after all, by the sense of native wealth and strength and boundless power in all directions which it reveals. First and last, and all the time, there is present in our minds a certain passionate joy that in these United States such a thing is possible, and that out of the strong has come forth such sweetness. That our material resources are immense we knew, but here they are marshaled in a way which none deemed possible, and subordinated to a central idea of imposing beauty. There are details which are not artistically perfect, but he who would cavil at blemishes in such a panorama must be querulous indeed.

Though our lodging was hard by the gates of the Fair, a wise friend bade us approach it first by water, for the sake of the general effect, so turning our backs upon the shining domes we whirled to the Van Buren Street pier and embarked upon a little steamer which was to take us in forty minutes down Lake Michigan to the White City. As we put off upon the dancing waters, the color of which is superb—a splendid green mottled with purple, like the Mediterranean Sea—the long stretch of the city of Chicago formed an imposing picture. Beautiful in the haze which softened their stiff outlines, the tall, twenty-storied buildings rose like towers. For fifteen miles along the lake stretch the buildings of this magical town, which fifty years ago was but a house in a swamp. This is the way to gain an idea of the extent and importance of the Lake City, and it is a fitting introduction to the Fair, whose roots it feeds with wealth and enterprise and generosity. One who sees that city on its great, fresh, inland sea, has an assured conviction that no eastern town could have afforded such an opportunity for the Exposition, and that here in the heart of our country, easily accessible to the boundless west, which most needs its lessons, should this Fair have been held.

As the spires of Chicago grow small in the distance the White City's outlines become more distinct, and the level line of the Peristyle, backed by domes and towers, concentrates our attention. Very impressive is this array of buildings and columns from the lake, and the moment of our approach is full of excitement. Here is the true entrance-gate. The long line of columns surmounted by plumed Indian figures, alternating with graceful maidens, is imposing, and everything prepares for the coming effect. It is a great moment. The mind and heart swell with patriotic pride as might have done those of a Roman at the sight of the Forum, or an Athenian when he climbed the steps of the Acropolis. It is our people who have done this, and we, too, have a right to artistic glory, for here the New World has achieved classical beauty. The site of this water court, with the buildings on either hand, the broad steps leading down into the canal, the dome of the Administration Building at the further end, the flitting launches and gon-

dolas, the moving crowd along the stately piers, the imposing groups of statuary on its borders, the tall columns with their sculptured trophies of adornment, the beautiful fountain, with its horses rising from the waves, all veiled in silvery water, is a vision never to be forgotten, and one of satisfying beauty.

Entering one of the little boats propelled by electricity, we silently and swiftly made the tour of the whole wonderful region, stopping at the great white flights of steps that lead up to each palace, learning their names, wondering at their proportions, rejoicing in the harmonious colorings of their flags which flutter from myriads of staffs. You may think you know it all beforehand, you have read of it a hundred times, but the enjoyment is novel and intense, and more than ever does the enchantment take possession of you. As days go by, and you grow familiar with the scene, its splendor enhances rather than palls, familiarity increases the charm, as it does with all truly beautiful things.

The place to stand at sunset is on a bridge that leads from the Wooded Island to the Fisheries Building, where, it seems to me, the most beautiful view of the whole Fair is to be had. The longest stretch of the canal lies before the eye. On the left the imposing mass of the Liberal Arts Building makes a fine perspective; on the right the flowering shrubs and green trees of the island form an agreeable mass of color, behind which rise distant domes and towers. The length of the canal is broken by bridges that give a Venetian effect to the vista, and in the background, far away, is seen the obelisk, backed by a colonnade which forms a fitting finish to the picture, recalling the beautiful canvases of Claude and Canaletto. The yellow light plays softly on the white buildings, under the bridges glide the graceful gondolas, distant bells are softly chiming, flowers are blooming, the summer throng comes and goes, idly lingering to gaze. All is light, color, perfume, melody, the realization of the most fanciful dream of those old masters. The sense of beauty is so intense, so gratifying, that the eyes fill with tears, and for a moment the work-a-day world vanishes, and we, too, are in Arcadia. And this enchanted scene seems to belong not to the America of to-day, but to some far-off hour to come in its millennium.

If all this seems fanciful, it is but the natural outcome of a scene which of itself is dream-like, and this great sensitive crowd, learned and humble, ignorant and aspiring, drinks in all this vision, and comes out from it enlarged, uplifted, with new knowledge and new aims, and with a memory to broaden the horizon of life forever. The first night of our arrival was that of the Infanta's visit, and fireworks and illuminations drew a vast throng of spectators to the grounds. Though the whole Fair is well lighted, the illuminations are all confined to the court of honor and its adjoining buildings, which are outlined in fire—the dome of the Administration Building being furthermore surmounted with a row of torch-like lights which alternate with the electric lamps. Near the surface of the water runs a line of incandescent lamps, which gleam and are reflected like jewels, and every now and then the search-light is thrown upon the different groups of sculpture in a way that emphasizes their beauty. As it fell on the spirited figure of Franklin standing in the arched recesses of the Electrical Building, the bold lines of the composition were clearly revealed, while the fine figures of animals on their high pedestals along the water seem almost life-like in distinctness. The spectacle was wonderful. The vast orderly throng of 150,000 swiftly moving people failed to encumber this spacious pleasure-ground. There was room for all without crowding.

We had time to notice this while sitting upon the parapet waiting for a vacant gondola. These boats are not black, as in Venice now, but painted in various colors, as they were in Columbus' day. Some of them, with high prows surmounted by swans' necks and griffins, are reproductions of the state barges of ancient Venice, and others are of the ordinary size, gay with colored cushions and awnings. On this gala night the gondoliers were arrayed in an old-time costume of striped red and white, the Lion of San Marco emblazoned on their breasts, and on their heads the curious cap of the fifteenth century. The night was warm and still, the lights gleamed on gayly clad forms which stepped in and out of the graceful boats as they came alongside the broad white steps, where revelers waited to enjoy their turn. The dome of light burned on, the shining water plashed in the fountains, and, as our turn came, we floated beneath the bridges, where the shadows lay cool and deep. Under the bending Willows of the island were sleeping flocks of water-fowl, and among the Iris-leaves a swan lifted up his long neck from his wing, gazed at us in sleepy wonder, and then sank again to repose. Up and down we floated by the vast white palaces, till the torches on the dome flared and were spent, till line by line the electric lights were extinguished, and we could stay no longer. "Buona sera, Signori, remember the gondolier," murmured the gentle-tongued Venetian as he helped us up the snowy steps, and the first magical day of our sojourn at the White City was over.

Chicago, Ill. *M. C. Robbins.*

Foreign Correspondence.

London Letter.

Eulophiella Elisabethæ.—This new genus was founded about a year ago by Mr. R. A. Rolfe, on a plant which flowered in the establishment of L'Horticulture Internationale at Brussels. It had been introduced from Madagascar by Messrs. Linden, at whose request, I believe, it was named in compliment to Queen Elisabeth of Roumania, known in literary circles as "Carmen Sylva." It was exhibited in flower at the recent Ghent Quinquennial Exhibition by Messrs. Linden, and was then considered to be "decidedly one of the most remarkable Orchids, if not the most remarkable plant, shown." A figure of the plant was published in *Lindenia* in May last year, but the source from whence the plant was obtained was not then divulged, and until recently Eulophiella was known as a rare beauty which few were ever likely to possess.

But to the delight of Orchid-growers, Messrs. Sander & Co. have succeeded in importing a quantity of plants of the Eulophiella, over a hundred of which were sold by auction in London a fortnight ago. They were advertised as follows:

A grand importation, in magnificent order and condition, of this new Madagascar species is now offered for the first time. It was discovered and collected by Monsieur L. Hamelin, who has previously sent only three plants to Europe, one of which was exhibited in flower at the last Ghent International Exhibition, where it created among Orchidologists a profound sensation, and commanded universal admiration. It was by far the loveliest new Orchid in the whole exhibition. Plants now offered have been received direct from its discoverer, Monsieur L. Hamelin, who says its flowers resemble Phalænopsis blossoms, and are produced as many as forty on a single spike; and he has seen masses with twenty and more spikes. The flowers last two months in perfection, April, May and June being its season of flowering. This new Orchid grows on trees at about forty feet from the ground, over swampy land, and only one species of tree in the far interior of Madagascar; and Mr. Hamelin assures us that he has collected every plant that he could find worth collecting.

The plants realized from three to five guineas each.

I am informed that Messrs. F. Sander & Co. have over a thousand plants of the Eulophiella for sale. It would be interesting to learn how the plants at Brussels have behaved under cultivation; whether they are as difficult to manage as some of the Madagascar Orchids; for instance, Phajus Humblotii and P. tuberculosus.

In *Lindenia* the plant is described as terrestrial, but the collector says it grows only on trees, and judging from the examples of it now at Kew I should say it is not only epiphytal, but a lover of plenty of moisture. The rhizome is as thick as a man's little finger, white, with ring-like nodes one-third of an inch apart, and numerous fleshy white roots. The pseudo-bulbs also are white and ringed, four inches long, one and a half inches wide, covered with the fibrous remains of the leaf-bases. The longest leaf is four feet long and two inches wide, thick and leathery; the scape is erect, two and a half feet long, and it shows the scars of forty flowers. Bearing in mind that the flowers are as large as those of Odontoglossum citrosmum, white inside, with a yellow lip, brown-purple outside, the same color characterizing the whole of the scape and pedicels, it will be seen that in Eulophiella we have an Orchid of exceptional beauty and distinctness, and if it only proves a good garden-plant it will take rank with the very best of tropical Orchids.

VANDA MISS JOACHIM.—Under this unfortunate name, Mr. H. N. Ridley, Director of the Botanical Gardens at Singapore, describes in the *Gardeners' Chronicle* a hybrid of special interest, from its being the first recorded hybrid Vanda, and also from its combining the characters of two very beautiful species—namely, V. teres and V. Hookeriana. Mr. Ridley says "it seems to have taken the form of V. Hookeriana and the coloring of V. teres. It is a very lovely plant, and is, I think, a great improvement on both the parents, beautiful as they are." This is saying a great deal for the hybrid. It was raised by a Miss Joachim, an amateur horticulturist residing in Singapore. The plant is now in the Singapore Botanical Gardens, where it is being propagated.

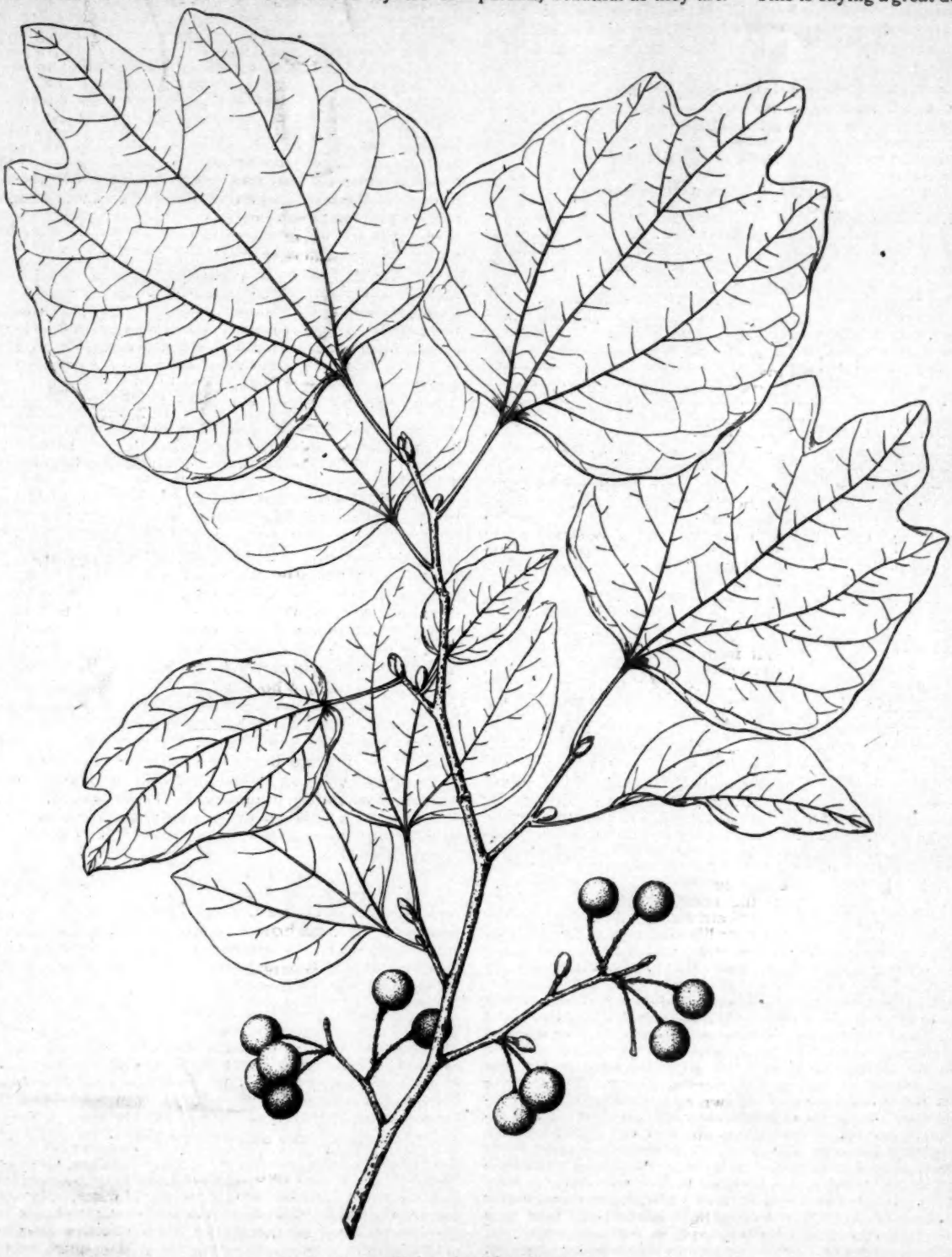

Fig. 42.—Lindera obtusiloba.—See page 292.

Disa Veitchii.—This hybrid maintains the high opinion formed of it when it was first shown by its raisers, Messrs. Veitch & Sons. It is easily grown in a cold greenhouse or frame, and it flowers freely in May or June, the tall spikes of large rosy flowers lasting a long time—six weeks at least. Messrs. Backhouse & Sons, of York, exhibited plants of it in flower last week. They have been raised in the York nurseries from seeds obtained by crossing D. racemosa and D. grandiflora.

London. *W. Watson.*

Cultural Department.

Hardy Bulbous Plants.

Trillium stylosum is a very interesting species from the southern Alleghany Mountains. In size it is a little smaller than our T. grandiflorum, but with me the flowers are far more durable than those of any other species. In a bed of a thousand bulbs, which had the disadvantage of being set last spring instead of the previous August or September, which would have given them time to have become partially established, there were flowers for fully six weeks. At first these flowers were white, or slightly tinged with rose color, but with age they turned to a darker rose, and after a little time they were of many shades, varying from nearly white to a deep rich rose. As it turns to a darker shade, T. grandiflorum always acquires an aged look, and the petals become shriveled a little at first turning, but the texture of T. stylosum is much firmer, and the flowers are often fresh in appearance after they become quite dark. The flower is only a little smaller than that of T. grandiflorum, and I am inclined to think the durability of its flowers, with the greater variety of shades, will, when it is better known, bring it into great favor. It evidently likes shade, or, at least, a place where only a sprinkling of sunlight can reach it. I have never wintered it here, but I have no doubt of its hardiness. It takes so cheerfully to cultivation, and does so much better the first season than our Painted Trillium (T. erythrocarpum), that I am greatly pleased with it.

Zephyranthes stricta, a Mexican species now in flower, is an odd one. Its flowers, which are white above, and slightly tinged with rose beneath, are often three inches wide, and only one or two inches above ground. In fact, some of them rest on the ground, while many are only half an inch or an inch above its surface. The seed-capsules, now forming from the first blooms, are often underground. The leaves, though short, are much above the flowers. It is a free bloomer, and the flowers are more durable than in most species. Z. Lindleyana and Z. verecunda are taller species, with rose-colored flowers an inch or more wide. In Z. verecunda the flowers are only pale rose, but Z. Lindleyana has flowers of a darker and richer shade. Both are free bloomers in this climate, and do finely.

Tigridia violacea is the first of many species to flower. It is a charming little plant, the flowers lasting only a short time. In size they vary from one to two inches in width and are of a violet-purple color. A clay loam suits it better than sand. In size I should judge it to be about half-way between T. bacciferа and T. Van Houtteii.

Charlotte, Vt. *F. H. Horsford.*

Bulbous Plants for Conservatories.

A judicious selection of bulbous plants will help greatly to brighten the conservatory at all seasons, and some of these plants are among the best for cut flowers. The value of the various Dutch bulbs needs no further comment now, but there are many old, but comparatively little-grown, bulbous plants, especially among the Amaryllidaceæ, that deserve much more attention than they now receive. Vallota purpurea is one of these, a showy plant, easy to manage, and requiring little heat. It is an evergreen, and, consequently, does not require the complete drying off necessary to ripen many bulbs. It should, therefore, be repotted immediately after the flowering season, which comes in late summer or early autumn. It is not essential to repot Vallotas every season, for after these plants become well established in large pots it is not necessary to disturb them for several years, an occasional renewal of the surface soil being all that they will then require. Drainage of the pots should always be free, and a suitable soil is one of good loam, with some sand and a fair allowance of thoroughly decayed manure.

There are some showy species of Hæmanthus which are useful for conservatory decoration, and though several of them have long been in cultivation, yet they are still somewhat unusual in general collections. H. sanguineus, the Blood-flower, is a handsome plant, a strong grower, with several large strap-shaped leaves a foot or more in length, and a stout spike that is crowned with an almost circular head of scarlet flowers. These are not large individually, but in the mass are quite showy, the long projecting stamens giving the head of flowers a graceful feathery appearance. H. multiflorus is another good plant of somewhat similar habit to the one just named, but having flowers of a duller hue. These plants require a complete rest after the growth is finished, and flourish in a temperature of about sixty degrees.

Griffinia hyacinthina is another fine bulbous plant, when well grown. It requires a slightly higher temperature than the last-named for the best results. It somewhat resembles a Eucharis when not in flower, but its leaves are narrower. It is evergreen and throws up spikes of violet flowers, bell-shaped and of fair size.

Eucharis grandiflora and E. candida are well known, though in many places they do not give their full quota of flowers, because they do not get rest enough. In the cultivation of Eucharis it is not essential that they should be dried off to such a degree that they lose all their foliage, but by giving them less water and a lower temperature after the growth has been made for a time, they give a larger crop of flowers, and repeat the crop at least three times in a year. The two species noted are decidedly the best of the genus, but in buying E. grandiflora, the best variety ought to be selected. This has much longer foliage and of a darker color than that of the inferior sort that is frequently sold as E. grandiflora. E. candida much resembles E. grandiflora in foliage, but the flowers are only about one-half as large, though very beautiful and frequently useful as cut flowers, where the larger species would be unsuitable.

Some of the Crinums are also good plants for our purpose, though rather large for a small collection. Among the best are C. amabile and C. Moorei, both of which can be grown well in a cool house, and after reaching a proper size they are almost sure to flower every spring or summer. Lachenalia pendula and L. orchidioides are among the old-fashioned plants seldom seen now, but both make very pretty objects when in flower, while the last also has handsome foliage as well. Several of the bulbs should be planted in a pot or small pan, for the plants do not become very large, and thus treated they make a pleasing variety among small flowering plants. Cool treatment is best for the Lachenalias, and after flowering they should be kept cool and dry to ripen the bulbs.

Holmesburg, Pa. *W. H. Taplin.*

The Water-garden.

Senecio japonicus, now in flower, is a perfectly hardy Groundsel, which requires a deep moist soil. It is a first-rate plant in a position near the water-garden, where bold plants with a sub-tropical effect are required. The leaves are broad and deeply divided into five or six lobes, each lobe being finely cut. The stems are about five or six feet tall and surmounted with heads of deep yellow composite flowers about three inches in diameter, with orange centres, which are attractive. But the plant is more especially useful for its distinctness. Now that much interest is taken in the planting of water-margins, effective plants for such positions are coming into request, and reliably hardy ones, of course, are most suitable and satisfactory. There are few places on a large estate where the landscape-gardener has an opportunity to make as attractive plantings as those near ornamental water, and there are no others which, when well done, prove so universally pleasing. Unfortunately, there seems to be a tendency here, as elsewhere, in the garden, to produce bizarre effects by high-colored plants and flowers, which are usually overcrowded. Playing to the groundlings is by no means confined to the theatre, apparently. Every piece of ornamental water will require a careful study and special planting to emphasize its beauties, for, of course, there will be sometimes extremes from surroundings of bogs and wet places for Sedges, Grasses and Flags, to dry rocks, where alpines and drought-loving plants would prove an attractive foil to the limpid water. No one who has seen the brilliant Cardinal-flowers in swampy lands would say that high-colored flowers are never effective near water, yet the general tone of water-views should be quiet, with varying bits of color during the season, the principal effect being from beauty of form and in the rich coloring of foliage rather than in its variegation.

Another effective broad-leaved plant is the gigantic Meadow Sweet, Spiræa Kamschatkiana, which carries large panicles of white flowers at a height of seven feet. This is rather ragged

after flowering, but may then be cut down. It will soon make a second growth, however, some two feet high. Some of the Flags are often useful, one of the most effective being Iris Pseudo-acorus, whose yellow flowers are very attractive in late June. The Kæmpfer Irises are much used in such situations and are at present in full flower. Earlier in the season Iris spectabilis will produce a profusion of small light purple flowers for several weeks, and later on it is more effective than most Grasses, it having tall narrow foliage. What a wonderful diversity there is among the Grasses, not only in form, but movement! These movements are curiously diverse and often interesfing as the plants sway in the wind.

Fig. 43.—Potato-field in Vermont. The plot on the left treated with Bordeaux mixture; the plot on the right untreated.

In the water-garden the various Nymphæas are in full vigor, the hardy varieties being mostly in flower. N. Caroliniana has been producing flowers of the largest size. It is very distinct among the pink-tinted Lilies with its numerous long narrow petals. There is no tender Nymphæa which I more enjoy than the Australian N. gigantea. My present specimen, for which I am indebted to your correspondent, Mr. J. Brydon, I consider a very notable one. It is a seedling of this season, and when received last month had sixteen leaves, some a foot in diameter, and numerous buds. Any one who has had experience of this species will appreciate the statement that this plant has had skillful treatment. There is no plant known to me which will become dormant more promptly on the slightest pretext.

The first flower-stalks of the wonderful Nelumbium speciosum are well above the water. There is no question as to the hardiness of this plant even farther north than this, but there seems to be some uncertainty as to the conditions of growth required before the end of the year to enable it to winter safely. It is generally supposed that it must make new tubers before cold weather sets in. It is a rambler, sending out strong stolons, pointed at the ends to pierce soft earth, which advance a foot or so and put out a bunch of roots, a pair of leaves in succession, usually a pair of flower-stalks, and later tubers. Other buds develop into stolons, usually two, and sometimes three, from each joint, so that a Nelumbium plantation eventually becomes a mass of tangled underground stems. In my tank several of these runners escaped over the top of the box in which the tubers were enclosed and wintered safely in the bottom of the tank where there was no soil to penetrate or to hold the roots. No tubers formed on these runners, and I am curious to know from some one's experience, presuming that there are tubers at the beginning of the ramification, how extensive a development of runners would be supported by such tubers. The joints themselves, with the numerous roots, appear well adapted to make successful cuttings, but that experiment remains to be tried.

When properly established this plant is seldom without flowers, it being one of the most prolific of the family.

Elizabeth, N. J. *J. N. Gerard.*

A Test of Fungicides upon Potatoes.

EXPERIMENTS in checking Potato-blight, Phytophthora infestans, have been carried on at the Vermont Experiment Station for the past three years. Last summer (1892), in continuation of this work, a careful comparative test of twelve of the most promising fungicides was undertaken. The work was duplicated in different fields and upon several varieties of potatoes. We believe, therefore, that the results are reliable so far as the work of a single season can make them. Three applications of each fungicide were made; the first on July 30th, the second August 13th, and the third August 25th. From our tests we rank these twelve fungicides as follows, in the order of their effectiveness against Potato-blight:

1. Strong Bordeaux mixture: Six pounds copper sulphate, four pounds lime and twenty-two gallons water.
2. Bordeaux mixture and molasses: Eight pounds copper sulphate, eight pounds lime, eight pounds molasses and fifty gallons water.
3. Weak Bordeaux mixture: Five pounds copper sulphate, five pounds lime and fifty gallons water.
4. Modified Eau Celeste: Four pounds copper sulphate, five pounds sal. soda, three pints ammonia and forty-five gallons water.
5. Copper-soda solution: Eight pounds copper sulphate twelve and one-half pounds sal. soda and fifty gallons of water.
6. Verdigris solution: Five pounds verdigris and fifty gallons water.
7. Very weak Bordeaux mixture: One pound copper sulphate, one pound lime and thirty gallons water.
8. Copper carbonate in suspension: One pound copper carbonate and twenty-five gallons water.
9. Copper and ammonium carbonates: One pound copper carbonate, two pounds ammonia carbonate and fifty gallons water.
10. Glue mixture: Ten ounces copper sulphate, twelve ounces sal. soda, eight ounces liquid glue and twenty-five gallons water.
11. Copper chloride solution: Three ounces copper chloride and twenty-two gallons water.
12. Ammoniacal copper carbonate: Five ounces copper carbonate, three pints ammonia and forty-five gallons water.

Of these twelve the first four alone appear valuable enough to be recommended to the Potato-grower. Of these four the strong Bordeaux mixture gave the best results; the weak mixture is, however, the one we recommend for all applications

Fig. 44.—Yield of marketable Potatoes from plot treated with Bordeaux mixture.

when the disease is not immediately threatening. The molasses does not seem to add much, if any, to the value of the mixture, and we do not recommend it. The modified Eau Celeste is about as expensive as Bordeaux mixture, and did not give as good results; we recommend it only when a ready-prepared, soluble fungicide is especially desired. Of such it has proved decidedly the best.

The most surprising outcome of our work has been the utter failure of the ammoniacal copper carbonate solution. We have used it with good results in orchard work against Apple and Pear-scab, and it has an established reputation for combating Grape diseases. Yet in our experiments upon Potatoes for two years, and on several plots each year, it has proved scarcely better than nothing. I do not think this difference in results can be attributed to any great difference in the effect of this fungicide upon these different species of fungi, providing only that it could act on all under the same conditions of weather. Its failure is, however, easily understood when we observe the peculiar conditions which are necessary for the development and spread of the Potato-blight. In Vermont this disease does not appear until late in the summer; then it spreads with marvelous rapidity, but only during very wet weather. Owing to

Fig. 45.—Yield from untreated plot of the same size.

this last condition any of the weaker fungicides are either washed away entirely or are so greatly diluted as to be ineffective at just the time when their protection is needed. In general, the Potato crop is saved or lost during only four or five days of warm rainy weather, and against this brief, but trying, attack we need our strongest defense. When we add to its fungicidal value the further fact that Paris green can be so advantageously applied with Bordeaux mixture, it leaves this mixture as the only fungicide tested that can be generally recommended for Potato-blight. It is, however, to be hoped that some substance will yet be found—possibly soap, as suggested by the New York station—the addition of which will increase the adhesiveness of this mixture, and by so doing make it still more valuable.

Experiment Station, Burlington, Vt. *L. R. Jones.*

[With this article Professor Jones sent several cuts which will be used to illustrate his report when it is published. One of them shows a single hill from each plot in the field, selected and photographed on the 10th of September as a fair sample of that plot. The appearance of these plants furnishes a reliable index of the relative value of these fungicides when applied to Potatoes, and a glance at the illustration shows at once that only four of the plots were in good condition at this time—that is, the plots treated with the four fungicides first named in the list above. More interesting, however, to the general reader are the cuts, which we give. Fig. 43, page 297, is from a photograph taken early in September, and shows the difference between contiguous plots, one of which was treated with the Bordeaux mixture and the other untreated. Fig. 44 shows the entire yield of tubers in one plot treated with the mixture, and Fig. 45 shows the yield of a plot of the same size which was untreated. In the first case the yield would be more than 350 bushels to the acre, and in the other about 100. From this it seems clear that the much-dreaded rot of potatoes can be controlled by a proper use of the copper mixture.—Ed.]

The Vegetable Garden.

BEETS should always be had in succession, as they soon get woody after reaching maturity. Many growers do not plant their main crop until the first week in July, the object being to have the roots good and tender for winter use. It will hardly do to sow Edmands', Dewing's or any of the larger varieties as late as the 10th, but Dwarf Egyptian sown as late as the second week in July matured nicely here. The last sowing of dwarf French Carrots may be made now. For home use these are superior to any of the larger kinds. Being of small size the rows may be planted closely, while less thinning is required. They attain a nice size and may be cooked whole, making a better appearance on the table than larger kinds do when sliced. Those who like turnips in winter may sow their Ruta-bagas now, and common globular white and yellow fleshed varieties two weeks later. Purple-top Milan can be sown as late as the second week in August and matures nicely. The yellow-fleshed varieties are the best winter keepers.

Radishes we sow every week the season long, using mostly French Breakfast and Ne Plus Ultra. So also Lettuce, though we do not always get it to head as it does in spring-time. All-the-year-round and Dutch Butter we find good summer varieties. Toward the end of July we shall sow "Satisfaction," a variety which has done us very good service for late summer use. Drought and mildew affect Peas in midsummer, and in consequence they are a very uncertain crop if sown later than the first week in June. We, however, sow in succession, sometimes with very fair results. American Wonder is the most reliable of any we have grown, and for private use is one of the best in cultivation; the rows may be sown as closely as two feet and need no bushing. We have sown this Pea as late as the 10th of August and picked peas until the 25th of October. To have Snap-beans young and tender at all times a row or two should be sown every two or three weeks, until the first week in August. We sow as late as the second week, but do not always get a crop before frost.

The last sowing of Sweet Corn should be in now. Stowell's Evergreen, for late, is the variety in most general use, but is being rapidly displaced both for market and private use by Potter's Excelsior. The ears are medium in size, kernels small, deep, close, plump and sweet. It is rather late for sowing Cabbages, Brussels Sprouts, Kale and some varieties of Cauliflower. Plants of these can generally be had of the regular dealers, and should be set out at once. It is not too late, however, to sow Erfurt Cauliflowers. Seed may be sown thinly in rows where the plants are to stand, and thinned out there rather than in the seed-bed to be transplanted. Those who have frames at their disposal may sow as late as the first week in August for heads to be had under glass about Thanksgiving. Celery, if not already planted, should be put in without delay, and a plentiful supply of water given until well established.

Success with growing crops depends much on the attention given to hoeing and weeding. Stirring the soil frequently helps to keep down weeds, admits light and air, thereby keeping the soil sweet and in condition to receive the full benefit of summer showers, which is too often lost when the surface of the soil is smooth and sun-baked. Asparagus, epecially new beds, is better for being staked. Without the protection afforded where a mass of plants are grown together, as in an old bed, they are constantly being twisted one way or another by every change of wind and beaten down by rain-storms. Staking helps the bed the first year, more the second year, and brings it in condition for cutting earlier, and stronger. It also helps the plants to pick off the seeds. The Asparagus-beetle, where prevalent, can be kept well under control by the regular Potato-beetle mixture of Paris green and plaster, which latter is an excellent fertilizer for this crop.

Wellesley, Mass. *T. D. H.*

Correspondence.

Rockport, Texas.

To the Editor of Garden and Forest:

Sir,—The Texas State Horticultural Society had its last annual meeting at Rockport, a town situated on Aransas Bay. My first impressions of the appearance of the country were not favorable. Like all the Texas coast-region, the country stretches away in a uniform level of white sand or thickets of dwarf shrubs. Everything is stunted, and no trees of any size can be seen. Such trees as there are all lean toward the north under the influence of the ever-present southern breeze, which sometimes swells into a hurricane. The soil by the sea is sand and shells, and farther inland the sand is more or less mixed with black loam. The climate is generally very dry.

But, although poor in appearance, the country is in reality a remarkably promising one for horticulture. The few persons who have planted Grapes and vegetables have been rewarded with splendid results. Those sands, so arid in aspect, hide an ever-present dampness, whether rain falls or not, and on the coast the presence of phosphate gives to vegetation an extraordinary stimulus. The grapes grow there to perfection; I had never before seen such large bunches and so many together. Vines, three years old, often carried more than half a bushel of grapes. Such varieties as Lenoir, Black Morocco, Malaga, Niagara, Muscatelle and Chaselas were perfectly ripe at the time of our visit, the 23d of June, and some of the bunches weighed four pounds and over.

Young orchards of Pear-trees have been planted, and are growing splendidly. Melons and Tomatoes are doing very well; one man told me he had raised 2,300 watermelons on one acre! I have seen some Italian onions measuring very nearly a foot across, and sweet-potatoes of prodigious size. Oleanders grow everywhere in the gardens without protection, and reach the height of fifteen feet, forming immense clumps; they were a perfect mass of bloom. There is no doubt that the Orange and Lemon would grow here without protection. Altogether, those coasts seem to present a great field for horticultural enterprise and experiment.

All kinds of game are abundant, especially water-fowl, in winter, and the sea teems with a large variety of fish. Rockport is the head-quarters of the sea-turtle-industry.

A hasty glance at the botanical wealth of the country revealed to me, on the coast, among the thickets of Live Oak, Colubrina Texensis, Ilex Cassine, Schæfferia cuneifolia, Lycium Berlandieri and two or three others not well determined by me. I noted among those thickets the pretty climber Antirrhinum maurandioides, the Erythrina herbacea, with bright red pea-shaped flowers; Lantana amara and the wild Fuchsia (Malvaviscus Drummondii).

In the interior the thickets are mostly formed of the ever-present Live Oak, the Red Bay (Persea Carolinensis), and also, though much more sparsely, of a kind of Huckleberry, Vaccinium arboreum, I think. Climbing everywhere can be seen the Centrosema Virginiana, a plant deserving a place in all gardens, and the prairie is red with Phlox Drummondii. I also noticed Tigridia buccifera, a very fine

bulbous plant, and some very large specimens of Yucca gloriosa about ten feet high.

Dallas, Texas. *J. Reverchon.*

The Flowering of the Virgilia.

To the Editor of GARDEN AND FOREST:

Sir,—In regard to the inquiry of your correspondent, F. S., who asks whether the Yellow-wood or Virgilia, Cladrastis lutea, has the habit of flowering on alternate years in other sections of the country than Boston, I can only say that there is a fine specimen of the Yellow-wood, about twenty years old, growing on the campus of the Michigan Agricultural College, and so long as I have been acquainted with it it has flowered profusely every year. Where a lawn-tree of medium size, compact growth and great beauty of flower and foliage is required, I agree with your correspondent that the Yellow-wood should certainly find a place.

Agricultural College, Fargo, N. D. *C. B. Waldron.*

To the Editor of GARDEN AND FOREST:

Sir,—In reply to the queries of F. S., I can say that my Virgilia-tree, which, by the way, is, with one exception, the only specimen of this fine tree which I have ever seen in this vicinity, has flowered very freely this year, but did not flower last year. It has previously produced flowers, as I remember, some years, and on others it has not produced them, but I cannot now recall whether there have been regular annual alternations in these periods of flowering. Your Boston correspondent failed to mention one of the good points of the tree—namely, that the flowers are delicately and agreeably fragrant. A few years ago more than one-half of the top of my tree suddenly died, with every appearance of a blight similar to that which is destructive to the Pear-tree. I expected the whole tree would go next year, but several seasons have passed, and the remaining branches are, to all appearance, as sound and healthy as ever, although the beauty of the tree as a specimen is gone.

Hammonton, N. J. *Wm. F. Bassett.*

To the Editor of GARDEN AND FOREST:

Sir,—I have never thought to keep a record as to whether the Virgilia blooms only on alternate years. I know that two years ago a tree at the Kissena Nursery, some thirty years of age, flowered very profusely; last year the same tree bore only a few scattering flowers, and this year it shows no flowers at all. A large tree on the grounds of Mr. S. B. Parsons has no flowers whatever this year.

Kissena Nurseries, Flushing, N. Y. *J. R. Trumpy.*

To the Editor of GARDEN AND FOREST:

Sir,—On our grounds the Virgilia blossoms on alternate years.

Rochester, N. Y. *Ellwanger & Barry.*

The Columbian Exposition.

Roses.

NO other floral display of the Horticultural Department will be likely to awaken such interest as the Roses have done. The last days of June and the first days of July have seen all the Rose-plantations in excellent bloom. The chief interest centres about the Rose-garden in the south-eastern portion of the island, for not only have the displays there been good, considering the conditions, but there is something of unusual suggestiveness in a garden given over bodily to a wealth of Roses. This Rose-garden comprises a little less than an acre of land in rectangular shape and surrounded by a chain fence. It is laid out in the geometric fashion and comprises forty beds, four of which are filled with Clematis. In design this garden reminds one of a gigantic hot-air register. It is a matter of doubt whether this is the best form in which the Rose-garden could have been cast. From an artistic point of view, some freer and more natural arrangement of groups or clumps upon the sward would probably have been better; but it must be considered that the plants were received so irregularly that little definite planning for effects could have been confidently made, and the plants are also so small that they would have given little character to any bold system of grouping.

In considering the ornamental plantations, one must remember that the soil is but a shallow covering of black earth, and that it is loose and droughty; and in the Rose-garden there is no soil which is adapted to Roses. The gardeners also complain that the intense suns of the American climate burn out the more delicate Roses as soon as they open. Yet, despite all this, the intelligent visitor must concede that the Rose-garden is a success. A low trellis bounds the garden just inside the fence, and most of its length is covered with the wonderfully profuse bloom of the Rose, Pride of Washington, furnished by the Dingee & Conard Company. A small portion of the trellis was planted to Baltimore Belle, but this has failed to make any show. Each of the interior beds contains but a single exhibit, although an exhibitor may have several beds. Many of the beds are without labels, either of the exhibit or of individual plants, and much of the value of the displays is thereby lost. It is, furthermore, impossible to find official records of some of the exhibits. The following inventory of the exhibitors and the numbers of varieties now living in the Rose-garden, together with date of setting, has been obtained with great care, and it is the most complete record yet published:

1892. E. Asmus, West Hoboken, New Jersey, 2 varieties, hybrids.
1892. Robert Craig, Philadelphia, 2 varieties.
1892. Alexander Dickson & Sons, Newtownards, Ireland, 20 varieties.
1893. Alexander Dickson & Sons, Newtownards, Ireland, 3 varieties.
1892. California exhibitors, 35 varieties, hybrids.
1893. California exhibitors, 24 varieties, hybrids.
1893. California exhibitors, 67 varieties, Teas.
——. Dingee & Conard Co., West Grove, Pennsylvania, 3 varieties.
1892. Boskoop Nursery Association, 144 varieties, hybrids. A few of these have died.
1892. M. Jeurgisson, Boskoop, Holland, 60 varieties.
1893. E. G. Hill & Co., Richmond, Indiana, 20 varieties, Teas and Polyanthas.
1892. Nanz & Neuner, Louisville, Kentucky, 15 varieties, hybrids.
1893. Nanz & Neuner, Louisville, Kentucky, 17 varieties, Teas.
1893. John N. May, New Jersey, 4 varieties, Teas.
1892. Ohio exhibitors, 10 varieties.
1893. Pitcher & Manda, New Jersey, 30 varieties, hybrids.
1893. E. Seyderhelm, Buda Pesth, Austria, about 200 varieties, standards.
1892. J. C. Vaughan, Chicago, 1 variety.
1893. German exhibitors, about 500 varieties, hybrids, Teas and standards.

Aside from these, there are on the island about sixty varieties of standards from W. Van Kleeff & Sons, Boskoop, Holland; a large lot of standards from the German Department (included in the above estimate of 500 varieties); a lot of Marshall P. Wilder, very fine, from Ellwanger & Barry, and an attractive little bed of Dawson and Rosa Wichuriana by W. C. Strong, of Massachusetts. The latter are not yet in flower. About the Woman's Building, among the French plants, are collections of Roses: (1) By L. Paillet, Vallée de Châtenay, near Paris, about 100 varieties, all standards; (2) by G. Boucher, Paris, about 200 varieties of standards and many low plants; (3) by Levavaseur & Son, Ussy, France, of Rosa rugosa. There is also a collection of imported standards shown in the New York exhibit in the rear of the Horticultural Building by Gabriel Marc & Co., Woodside, Long Island. Finally, about the California State Building, there are several Tree Roses, six to eight feet high and in full bloom, which attract considerable attention.

In all this abundance of Roses it is impossible to single out any one exhibit as better than all others. Yet, so far as novelty and striking merit of varieties are concerned, the exhibit of Dickson & Sons, Ireland, probably excels. This firm originates varieties, and it needs no introduction to American rosarians. Among the striking Roses in this exhibit are Mrs. John Laing (of which the head-gardener is very proud), Margaret Dickson, Earl of Dufferin, Madame Plantier, Jeannie Dickson, Marchioness of Dufferin, Blanche Moreau and Céline, the last two being Moss Roses.

The German exhibit is the largest. It is made up of about ten different lots, from as many German growers. The entire German horticultural interests are in the hands of Ludwig Schiller, who considers the following varieties to be among the best of those under his charge: Of standards, Marie Baumann, Victor Verdier, Lady Mary Fitzwilliam, Fisher Holmes, Sappho, Alfred Colombe, Baroness Rothschild; of low hybrid Roses, Merveille de Lyon, Pride of Waltham, Captain Christy, General Jacqueminot, Jean Liabaud, Anna Alexieff, Anne de Diesbach, Auguste Neumann, Baroness Rothschild, Etienne Levet, La France, Mrs. John Laing, Souvenir de Paul Neyron; of Teas, Mlle. Franzisca Krüger, Madame Honoré Defresne, Reine Nathalie de Serbie, Sunset, Marie Guillot, Grace Darling, Souvenir de Victor Hugo, Perle des Jardins, Viscountess Folkstone, Gloire de Dijon, and Kaiserin Augusta Victoria, the new white Tea. The California Roses are very strong and free-blooming, and have been among the best show-plants in the garden. American Beauty and Mignonette have been particularly good in this collection. Other prominent varieties are

Clothilde Soupert, shown by Vaughan, and Ulrich Brünner, shown by Craig. The latter is only semi-double, and the bud is very attractive.

With the exception of the plants of Nanz & Neuner and the Clothilde Soupert, by Vaughan, all the hardy Roses are budded. This fact proves that nearly all dealers prefer such stock for strong growth and quick results; and if the plants are set deep enough, so that the bud is three inches below the surface, it is commonly agreed that budded plants are superior to others for outdoor planting. The standard Roses are a surprise to many Americans. The Rose is budded four or five feet high upon a straight slender stock, which is stripped entirely of its leaves after the bud begins to grow. In the specimens on exhibition the bud is two seasons old, forming a compact little bush or bunch on the apparently dry cane. These plants are set in rows or other formal fashion, and most of them are tied to strong green stakes. These tree or standard Roses are much used in Europe for planting in the centres of foliage or bulb beds, or for use as supports to Ipomœas or other climbing plants. Any variety of Rose may be worked or budded in this manner. In France and Germany, yearling standard buds sell for twenty-five to fifty cents apiece. Because of the difficulty of protecting them in winter they have never become popular in this country; and it should also be said that the American taste tends toward more naturalistic methods of treatment. Mannetti stocks are sometimes used for these standards, but seedlings of the Rosa canina are oftenest employed, both in Germany and France.

Chicago, Ill. *L. H. Bailey.*

Notes.

A booth was opened on the Fourth of July in the Woman's Building of the Columbian Exposition, where American citizens can enjoy the harmless amusement of voting for a national flower.

Mr. Waldo F. Brown writes to the *Ohio Farmer* that there are beds of Asparagus in his neighborhood which have been planted some fifty years, and are still in vigorous and profitable bearing. The plants are set in rows four feet apart and stand four feet apart in the row.

Every year we call attention to the Prairie Rose, Rosa setigera, as one of our most beautiful climbing plants, as it is the only American Rose with climbing stems; and every year correspondents who read what is said of this Rose write to inquire where the plants can be bought, for even yet comparatively few nurserymen have them to sell.

V. Lemoine & Fils send us photographs of a plant in flower of Deutzia parviflora, a species mentioned in a recent issue of these notes, growing in their nursery at Nancy, and in a personal letter write that, in their judgment, it is the handsomest and most elegant of the cultivated Deutzias, and that it has proved hardier in Nancy than D. crenata, which was killed to the level of the ground during the last winter. At Nancy, D. parviflora is the earliest member of the genus to flower, and has been found to force easily and successfully.

We have received from Mr. Joseph Meehan, of Germantown, some branches of Hovenia dulcis, bearing several axillary and terminal panicles of its small creamy white and very fragrant flowers. The heart-shaped serrate leaves are alternate, thick in texture, glossy above, and many of them are from six to seven inches long and four inches wide. Mr. Meehan writes that the tree from which these sprays were taken is now twenty-five feet high, and it is flowering for the third successive year. Hovenia dulcis bloomed in the neighborhood of Philadelphia as long as ten years ago, but it is by no means common in cultivation, and it has not yet proved able to endure the winters at the Arnold Arboretum.

One of the most beautiful American shrubs now in flower is Stuartia pentagyna; its large creamy white flowers, three or four inches across, with scalloped margins resembling those of some Camellias, to which, indeed, the Stuartia is related. Perhaps the slow growth of this plant while it is young has discouraged planters; at all events, it is so rarely found in gardens that it has never received a common English name. When fully established, however, so that its beauties are developed, this Stuartia is one of the most pleasing of all hardy shrubs which flower in summer, and it should be omitted from no carefully selected collection. It appreciates liberal treatment, and when set in good loam mixed with peat and enriched occasionally with a dressing of old and well-pulverized manure it will always repay such attention.

Professor Maynard, of the Massachusetts Agricultural College, announces by postal-card, that a giant Century Plant in the greenhouse at Amherst is now in full bloom. It is a specimen of the striped variety of Agave Americana, and it is said to be probably the largest plant of its kind under glass in America. This specimen originated at the old Ames homestead in Chicopee, Massachusetts, about 1825, and was presented to Mrs. Hitchcock, the wife of President Edward Hitchcock, of Amherst College, by Mrs. James T. Ames, in 1838. It was used as a lawn plant for about thirty years when it was given to the college. Since then it has been grown on a mound of prepared soil some fifteen feet by fifteen at the base, eight by eight at the top and five feet high. The flower-stalk is eighteen feet high, with a panicle containing over 3,000 buds and flowers, and the whole plant is estimated to weigh about a ton. The flowers are greenish yellow, two inches long by one inch broad, with six bright yellow stamens exserted some two inches beyond the floral envelope.

Professor Massey writes that the North Carolina Experiment Station "now has a grapery planted with the choicest of the Vinifera varieties of Grapes, such as Black and Golden Hamburg, Muscats and others. The crop this year is magnificent. The house is entirely a cold grapery, but in this latitude we are of the opinion that cold-grapery Grapes can be made to pay, though most northern growers have come to the conclusion that they are unprofitable on account of the competition of the California crop. But here a cold grapery can be allowed to start safely by the first of March and the crop can be put on the market before the California grapes arrive. This season is our first full crop, and we will ship the fruit soon to test the matter. Our grapery was built for a two-fold purpose—the testing of the profit of growing these grapes under glass and the production of hybrid grapes of a late ripening character to fill up the gap that always comes here between the cutting of our early grapes and the ripening of Scuppernongs. The grapes commonly grown north ripen here from early July to late August, and then, until Scuppernongs begin in late September, we have no grapes. We hope to get a Grape to fill this gap better than the Herbermont does."

A correspondent of the *Country Gentleman*, writing from Norfolk, states that 20,000 barrels of potatoes are now shipped daily to northern cities from the truck-farms within twenty miles of Norfolk, and that they bring from $3.25 to $3.50 a barrel. From May 1st to July 10th the truck-farmers in that section have received from northern markets about $50,000 a day, or $3,500,000 in all, for berries, peas, beans, cabbage, cucumbers, squash, potatoes, etc. Before the first of May a steady, though smaller, amount of farm-produce was constantly shipped, and, in fact, shipments never cease entirely for any length of time. The land cleared of truck-crops at the middle of July is put into Millet, Cow Peas, Corn, Turnips and Crab-grass Hay, which cuts from one to one and a half tons an acre. This Grass is an annual which comes up every year in July and covers the ground for the rest of the season. Perhaps the money received during a year for the crops grown within twenty miles of Norfolk will exceed the sum of $5,000,000, and yet both the farmers and merchants of this region complain of hard times. "If such returns do not make people prosperous, what shall we say," inquires the writer, "of those sections of the country in which only one crop a year is raised, and where the returns for this crop are divided between producers and the 'long-haul' charges of the railroads?"

The oak-leaved Hydrangea, H. quercifolia, is still in flower, and deserves mention as the most showy of our native Hydrangeas and one of the best of its genus. On the banks of streams in Georgia and northern Florida it is sometimes fifteen to eighteen feet high, with a habit almost tree-like, although in the latitude of New York the best plants are rarely more than six feet high. Its flowers come in large thyrsoid panicles, with spreading branches which carry a few clusters of perfect flowers, and at the extremities a large sterile flower, dull white at first and turning reddish before it fades. In its flowering it resembles the Japanese Hydrangea paniculata, which is too rarely seen, although its variety, Grandiflora, with enormous panicles of sterile flowers, is now one of the commonest shrubs in American gardens. The oak-leaved Hydrangea is not hardy much farther north than the latitude of New York, but where it will flourish it is a good shrub all the year round, and its deep plum-colored foliage in autumn is singularly attractive. Another native Hydrangea, H. Radiata, which is common in the Carolina mountains, is particularly beautiful for the snow-white down which covers the under sides of its leaves. It is a perfectly hardy plant and deserves more general cultivation. Our most northern species is H. arborescens. It flowers rather earlier than the others, but is altogether less attractive.